

WE CLAIM:

CLAIMS

1. In a Home Network telephone system, a method for controlling communications privacy, the method comprising:

5 transceiving calls on at least one external telephone line;
and,

selectively excluding bridges between external telephone lines and a plurality of Home Network endpoints.

10 2. The method of claim 1 wherein selectively excluding bridges between external telephone lines and a plurality of Home Network endpoints includes exclusively bridging a call between a first external telephone line and a first endpoint from among the plurality of endpoints.

15 3. The method of claim 1 further comprising:
supplying privacy and public mode bridging options;
selecting the public mode;
wherein selectively excluding bridges between external telephone lines and a plurality of Home Network endpoints includes:
20 bridging a call between the first external telephone line and the first endpoint; and,
in response to the selection of the public mode, permitting bridges between the first external telephone line and other endpoints in the system.

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4. The method of claim 3 wherein permitting bridges between the first external telephone line and other endpoints in the system includes:

from a second endpoint, selecting the first external telephone line; and,

while the call is bridged to the first endpoint, adding a bridge between the first telephone line and the second endpoint.

5. The method of claim 3 wherein selectively excluding bridges between external telephone lines and a plurality of Home Network endpoints includes:

while in the public mode, bridging a call between the first telephone line and the first endpoint; and,

adding a bridge between the first external telephone line and a second endpoint; and,

the method further comprising:

toggling to the privacy mode; and,

in response to toggling to the privacy mode, dropping the bridge between the first telephone line and the second endpoint.

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6. The method of claim 3 wherein selectively excluding bridges between external telephone lines and a plurality of Home Network endpoints includes, while in the public mode, bridging a call between the first telephone line, the first endpoint, and a second endpoint; and,

the method further comprising:

selecting the privacy mode; and,

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in response to selecting the privacy mode, preventing a bridge between the first telephone line and other endpoints in the system.

7. The method of claim 1 further comprising:

5 selecting the privacy mode;

wherein selectively excluding bridges between external telephone lines and a plurality of Home Network endpoints includes:

bridging a call between a first external telephone line and a first endpoint; and,

10 in response to selecting the privacy mode, preventing bridges between the first external telephone line and other endpoints in the system.

8. The method of claim 7 wherein selectively excluding

15 bridges between external telephone lines and a plurality of Home Network endpoints includes, while in the privacy mode, bridging a call between the first telephone line and the first endpoint; and,

the method further comprising:

toggling to the public mode; and,

20 in response to toggling to the public mode, adding a bridge between the first telephone line and the second endpoint.

9. The method of claim 7 wherein preventing a bridge

between the first telephone line and other endpoints in the system

25 includes:

from a second endpoint, selecting the first external telephone line; and,

while the call is bridged between the first telephone line and the first endpoint, preventing a bridge between the first telephone line and the second endpoint.

5 10. The method of claim 1 wherein transceiving calls on at least one external telephone line includes communicating information in a first format;

the method further comprising:

at a gateway, converting between the first format and a
10 digital Home Network format;
establishing traffic channels between the gateway and the endpoints to communicate information in the Home Network format; and,
establishing control channels to control endpoint privacy.

15 11. The method of claim 10 wherein establishing a control channel to control endpoint privacy includes:

using the control channels to communicate privacy and public mode selections to the gateway from the endpoints; and,

using the control channels to send mode selection
20 acknowledgements from the gateway to communicating endpoints, in response to making the privacy and public mode selections.

12. The method of claim 11 wherein supplying privacy and public mode bridging options includes supplying privacy and public mode
25 bridging options with respect to nodes selected from the group including endpoints and external telephone lines.

13. The method of claim 12 further comprising:
at the gateway, establishing a default mode flag for a first
node;

wherein using the control channels to communicate privacy
5 and public mode selections from the endpoints to the gateway includes
using the control channels to select default mode flags; and,
wherein selectively excluding bridges between external
telephone lines and a plurality of Home Network endpoints includes using
the default mode flags to determine whether a privacy or a public mode
10 has been selected for the first node.

14. The method of claim 13 further comprising:
at the gateway, establishing a permission flag for each node;
wherein using the control channels to communicate privacy
15 and public mode selections from the endpoints to the gateway includes:
using the control channels to select default mode flags;
checking the permission flag status to determine if the
communicating node has permission to change default mode flags; and,
wherein selectively excluding bridges between external
20 telephone lines and a plurality of Home Network endpoints includes
changing the default mode flag in response to the permission flag status.

15. The method of claim 13 further comprising:
at the gateway establishing a toggle flag for each default
25 mode flag;
wherein using the control channels to communicate privacy
and public mode selections from the endpoints to the gateway includes:

using the control channels to select toggle flags for a first call bridged to the first node selected from the group including on-going and subsequent calls; and,

wherein selectively excluding bridges between external
5 telephone lines and a plurality of Home Network endpoints includes using the toggle flag to change the default mode flag for the first call involving the first node.

16. The method of claim 15 further comprising:
10 in response to preventing a bridge between the first external telephone line and the second endpoint, sending a communication from the gateway to the second endpoint selected from the group including a busy signal and a message indicating that a privacy mode call is currently in progress.

15 17. The method of claim 15 further comprising:
in response to preventing a bridge between the first external telephone line and the second endpoint, bridging the second endpoint to an unused external telephone line.

20 18. The method of claim 15 further comprising:
following the bridging of a call between the first external telephone line and the first endpoint in the privacy mode, using the control channels to send a transfer command; and,
25 while the call is in progress, terminating the bridge between the first external telephone line and the first endpoint, and establishing a bridge between the first external telephone line and the second endpoint.

19. The method of claim 15 wherein selectively excluding
bridges between external telephone lines and a plurality of Home Network
endpoints includes bridging a call in response to receiving the call on an
5 external telephone line.

20. The method of claim 15 wherein selectively excluding
bridges between external telephone lines and a plurality of Home Network
endpoints includes originating the call from an endpoint.
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21. The method of claim 20 wherein originating the call
from an endpoint includes selecting an external telephone line from the
endpoint.

22. The method of claim 15 further comprising:
using an input/output (I/O) device, supplying privacy and
public default mode selections, permission flag selections, and toggle flag
15 selections to the gateway.

23. A Home Network telephone privacy management
system comprising:
a gateway having a port for transceiving calls on at least one
external telephone line and a port for selectively establishing bridges to
the external telephone lines in response to privacy and public modes; and,
20 a plurality of Home Network endpoints, each endpoint
having a user interface to accept mode commands and external telephone
line selection commands, each endpoint having a port connected to the
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gateway for supplying mode and external telephone line selection commands, each endpoint having a port for establishing bridges to external telephone lines through the gateway.

5 24. The system of claim 23 wherein the gateway exclusively bridges a call between a first external telephone line and a first endpoint in the privacy mode.

10 25. The system of claim 23 wherein the gateway bridges a call between a first external line, a first endpoint, and a second endpoint in the public mode.

15 26. The system of claim 23 wherein the gateway bridges a call between a first external telephone line and a first endpoint, and prevents bridges between the first external telephone line and other endpoints in the system in the privacy mode.

20 27. The system of claim 26 wherein the gateway bridges a call between the first external telephone line and the first endpoint in the privacy mode; and,

 wherein the gateway permits bridges between the first external telephone line and other endpoints in the system, in response to receiving a public mode toggle command.

25 28. The system of claim 26 wherein the gateway bridges a call between the first external telephone line and the first endpoint in the public mode; and,

wherein the gateway adds a bridge between the first telephone line and a second endpoint while the call is bridged to the first endpoint.

5 29. The system of claim 23 wherein the gateway bridges a call between a first telephone line and a first endpoint, and adds a bridge between the first external telephone line and a second endpoint; and,
 wherein the gateway drops the bridge between the first telephone line and the second endpoint in response to a privacy mode
10 toggle command.

 30. The system of claim 23 wherein the gateway bridges a call between a first telephone line, a first endpoint, and a second endpoint in the public mode; and,
15 wherein the gateway prevents a bridge between the first telephone line and other endpoints in the system in response to a privacy mode toggle command.

 31. The system of claim 23 wherein the gateway bridges a
20 call between a first external telephone line and a first endpoint in the privacy mode;

 wherein a second endpoint selects the first external telephone line while the call is bridged between the first telephone line and the first endpoint; and,

25 wherein the gateway prevents a bridge between the first telephone line and the second endpoint.

32. The system of claim 23 wherein the gateway transceives calls on the external telephone lines in a first format, converts between the first format and a digital Home Network format, establishes traffic channels between the gateway and the endpoints to communicate information in the Home Network format, and establishes control channels to manage endpoint privacy.

33. The system of claim 32 wherein the plurality of endpoints use the control channels to communicate privacy and public mode commands to the gateway; and,
wherein the gateway uses the control channels to send mode selection acknowledgements to the endpoints.

34. The system of claim 33 wherein the gateway receives privacy and public mode bridging commands with respect to nodes selected from the group including endpoints and external telephone lines.

35. The system of claim 34 wherein the gateway receives a privacy mode command for a first external telephone line and exclusively bridges a call to an endpoint originating a call through the first external telephone line.

36. The system of claim 34 wherein the gateway receives a privacy mode command for a first external telephone line and exclusively bridges a call to an endpoint receiving a call through the first external telephone line.

37. The system of claim 34 wherein the gateway receives a privacy mode command for a first endpoint and exclusively bridges a call to an external telephone line through which the first endpoint originates a call.

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38. The system of claim 34 wherein the gateway receives a privacy mode command for a first endpoint and exclusively bridges a call to an external telephone line from which the first endpoint receives a call.

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39. The system of claim 33 wherein a first endpoint selects the privacy mode;

wherein the gateway bridges a call between a first external telephone line and the first endpoint;

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wherein a second endpoint selects the first external telephone line while the call is bridged between the first telephone line and the first endpoint; and,

wherein the gateway sends a communication to the second endpoint selected from the group including a busy signal and a message indicating that a privacy mode call is currently in progress.

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40. The system of claim 33 wherein a first endpoint selects the privacy mode;

wherein the gateway bridges a call between a first external telephone line and the first endpoint;

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wherein a second endpoint selects the first external telephone line while the call is bridged between the first telephone line and the first endpoint; and,

wherein the gateway bridges the second endpoint to an unused external telephone line.

41. The system of claim 34 wherein a first endpoint
5 supplies a transfer command to the gateway for the transfer of a privacy mode call to a second endpoint; and,
wherein the gateway, while the call is in progress,
terminates the bridge between a first external telephone line and the first
10 endpoint, and establishes a bridge between the first external telephone line and the second endpoint in response to the transfer command.

42. The system of claim 34 wherein the system further
comprises a gateway flag repository having a default mode flag for each
corresponding node, wherein the flag repository has a port to accept
15 control channel communications for selecting default mode flags and for communications with the gateway; and,

wherein the gateway accesses default mode flags in the flag repository to determine whether a privacy or a public mode has been selected for a corresponding node.

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43. The system of claim 42 wherein the flag repository further includes a permission flag corresponding to each endpoint; and,

wherein the gateway receives control channel communications from endpoints attempting to change the default mode
25 flag, the gateway checking the corresponding permission flag status to determine whether a communicating endpoint has permission to change

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the default mode status, and the gateway changing the default mode flags in response to the permission flag values.

44. The system of claim 43 wherein the flag repository
5 includes toggle flags for each corresponding default mode flag; and,
wherein the gateway receives control channel
communications for setting toggle flag values, the gateway checking the
toggle values during a first call selected from the group including on-going
and subsequent calls, and overriding the default mode flag for the first
10 call in response to the toggle value.

45. The system of claim 44 further comprising:
an input/output (I/O) device having a user interface for
accepting external telephone line privacy and public selection commands
15 and a port connected to the gateway for selecting flag repository flag
values.